

LEVIN, S. S.

Cand Tech Sci - (diss) "Experimental study of workability of porous concrete as relates to cutting." Moscow, 1961. 15 pp; (Ministry of Transportation Construction USSR, All-Union Scientific Research Inst of Trans Const); 150 copies; price not given; (KL, 7-61 sup, 239)

LEVIN, S.S., st. nauchn. sotr.; POLUBNEVA, V.I., inzh., red.

[Surfaces of cellular concrete products finished by milling; practices of cellular concrete plants of the Sverdlovsk Economic Council] Otdelka poverkhnostei izdelii iz iacheistyykh betonov frezerovaniem; opyt zavodov iacheistyykh betonov Sverdlovskogo sovnarkhoza. Moskva, Gosstroizdat, 1962. 21 p. (MIRA 17:3)

1. Laboratoriya zhelezobetonnykh konstruktsiy Nauchno-issledovatel'skogo instituta po stroitel'stvu Akademii stroitel'stva i arkhitektury v Sverdlovske (for Levin).

CHUVIN, V.P.; KULIKOV, O.T., inzh.; LADIN, M.N., inzh.; LATSKIY, V.I., inzh.;
ZIMIN, V.A., inzh.; LEVCHENKO, K.P., inzh.; LEVIN, S.S., inzh.;
SERGEYEV, V.V., inzh.

"Ural-61" boring machine. Gor.shur. no.2:53-55 P '64.

(MIRA 17:4)

1. Glavnyy instruktor Magnitogorskogo zavoda gornogo oborudovaniya
(for Chuvina). 2. Nauchno-issledovatel'skiy i proyektno-
konstruktorskiy institut gornogo i obogatitel'nogo oborudovaniya,
Sverdlovsk (for Latskiy, Zimin, Levchenko, Levin, Sergeyev).

ZIMIN, Vyacheslav Aleksandrovich, inzh.; LEVIN, Samuil Samsonovich, inzh.; LEVCHENKO, Klavdiya Pavlovna, inzh.; SERGEYEV, Viktor Viktorovich, st. inzh.; ANTONOVA, N.N., inzh., red.

[Pneumatic-percussive boring of blast holes in stone quarries; experience of the Shartash Granite Quarry of the "Uralnerud" Trust] Pnevmodarnoe burenie vzryvnykh skvazhin na kamennykh kar'erakh; opyt Shartashskogo granitnogo kar'era tresta "Uralnerud." Moskva, Stroiizdat, 1964. 24 p. (MIRA 18:4)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Zaveduyushchiy laboratorii burovoy tekhniki Nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta gornogo i obogatitel'nogo mashinostroyeniya, g. Sverdlovsk (for Zimin).
3. Nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut gornogo i obogatitel'nogo mashinostroyeniya, G. Sverdlovsk (for Levchenko, Sergeyev).

LEVIN, S.T.; SHPAKHIER, A.G.

Studying the enrichment factor of Dmitrievskiye coals in the
Pavlograd-Petropavlovka area. Izv. DGI 29:178-193 '57. (MIRA 11:5)
(Dnepropetrovsk Province--Coal--Analysis)

AGULOV, Aleksey Pavlovich, kand.geol.-mineral.nauk, nauchnyy sotrudnik;
ALEKSEYEV, Aleksey Mikhaylovich, dotsent, nauchnyy sotrudnik;
BARYSH, Mariya Yakovlevna, inzh.-geolog, nauchnyy sotrudnik;
DOMORATSKIY, Nikolay Aleksandrovich, dotsent, nauchnyy sotrudnik;
LEVIN, Semen Timofeyevich, dotsent, nauchnyy sotrudnik; NESTERENKO,
Petr Grigor'yevich, prof., nauchnyy sotrudnik; SHIROKOV, Aleksandr
Zosimovich, prof., nauchnyy sotrudnik; SHPAKHLER, Abram Grigor'yevich,
starshiy nauchnyy sotrudnik; OVCHAROVA, Z.G., red.izd-va; ROZENTSVEYG,
Ye.N., tekhn.red.

[Atlas of Donets Basin coals] Atlas uglei Dneprovskogo basseina.
Kiev, Izd-vo Akad.nauk USSR, 1960. 44 p.

(MIRA 13:12)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut
im. Artema (for all, except Ovcharova, Rozentsveyg). 2. Chlen-
korrespondent AN USSR (for Shirokov).

(Donets Basin--Coal geology)

KANEVSKIY, V.P.; LEVIN, S.T.; LIBERMAN, M.L.; LIVSHITS, G.L.; RAYVICH,
I.D.; SHKITIN, V.I.

Concentration of slurries in a centrifugal force field. Koks. 1
khim. no. 3:15-18 '61. (MIRA 14:4)

1. Dnepropetrovskiy gornyy institut (for Kanevskiy, Levin, Liberman).
2. Nikitovskaya Tsentral'naya ugleobogatitel'naya fabrika (for
Livshits, Rayvich, Shkitin).
(Coal preparation)

BRUK, A.S., doktor tekhn.nauk; OBUKHOVSKIY, Ya.M., kand.tekhn.nauk;
LEVIN, S.T.

"Coal sulfur" by A.Z. IUrovskii. Reviewed by A.S. Bruk, IA.M.
Obukhovskii, S.T.Levin. Koks i khim. no. 5:63-64 '61.

(MIRA 14:4)

1. Dnepropetrovskiy metallurgicheskiy institut (for Levin).
(Sulfur) (Coal)
(IUrovskii, A.Z.)

SHPAKHLER, A.G.; KORCHAGIN, L.V.; LEVIN, S.T.; BLAGOV, I.S.; KOTKIN, A.M.;
SOLOV'YEV, A.V.

Briquetting coal and anthracite breeze in a cold state. Ugol'. prom.
no.6:34-36 N-D '62. (MIRA 16:2)

1. Dnepropetrovskiy gornyy institut (for Shpakhler, Korchagin, Levin).
2. Ukrainskiy proyektno-konstruktorskiy i nauchno-issledovatel'skiy
institut po obogashcheniyu i briketirovaniyu ugley (for Blagov, Kotkin,
Solov'yev).

(Briquets (Fuel))

LEVIN, S.T., kand. tekhn. nauk; KANEVSKIY, V.P., gornyy inzh.

Arc-shaped screens. Gor. zhur. no.2:61-63 F'62.

(MIRA 17:2)

1. Dnepropetrovskiy gornyy institut.

SITAILO, V.M., inzh.; VOLOTKOVSKIY, S.A., doktor tekhn. nauk; LEVIN, S.T.,
kand. tekhn. nauk

Regularities of the settling of coal slurries in piramidal and
radial thickeners. Izv. vys. ucheb. zav.; gor. zhur. 7 no.11:
184-192 '64. (MIRA 18:3)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
institut imeni Artema. Rekomendovana kafedroy obogashcheniya
poleznykh iskopayemykh.

LEVIN, S.T.; IVASHKO, V.T.; KONRADI, V.Ya.; MARKOVSKIY, P.I.

Intensification of the jiggling process. Izv. DGI 42:286-294
'64. (MIRA 18:11)

LEVIN, S.T.; KONRADI, V.Ya.; MARKOVSKIY, F.I.; IVASHIN, V.I.

Results of testing two and three-product unit hydrocyclone
separators with a naturally heavy medium. Izv. VNIIM (MIRA) 1964,
164.

ZAFIAKOVSKIY, G.M.; LEVIN, S.V.

Effect of various forces of stimulation of sympathetic and spinal ganglia on vital staining. *Fiziol. zh. SSSR* 39 no. 1:81-88 Jan-Feb 1953. (CML 24:2)

1. Department of Normal Physiology of Naval Medical Academy, Leningrad.

LEVIN, S.V.

Effect of anesthesia on sorption properties of the cerebral cortex cells. Biul.eksp.biol. i med. 42 no.12:50-53 D '56. (MLRA 10:2)

1. Iz laboratorii elektrofiziologii Fiziologicheskogo instituta im. A.A.Ukhtomskogo (zav. - deystvitel'nyy chlen AMN SSSR D.N.Nasonov) i laboratorii obshchey fiziologii Instituta normal'noy patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N.Chernigovskiy) AMN SSSR.

(CEREBRAL CORTEX, physiology,
eff. of anesth. on sorption properties (Rus))
(ANESTHESIA, effects,
on cerebral cortex sorption properties (Rus))

LEVIN, S.V.

Quantitative study of light scattering in separate living cells.
TSitologiya 2 no.4:489-497 J1-Ag '70. (MIRA 13:9)

1. Laboratoriya fiziologii kletki Instituta tsitologii AN SSSR,
Leningrad.

(LIGHT—SCATTERING)

(CELLS)

LEVIN, S.V.

Changes in the scattering degree of colloidal protoplasmic particles of nerve cells due to the effect of quinine sulfate, egg albumin, and ethyl urethan solutions. TSitologiya 3 no.4:409-417 J1-Ag '61.
(MIRA 14:8)

1. Laboratoriya fiziologii kletki Instituta tsitologii AN SSSR, Leningrad.

(PROTOPLASM)

(LIGHT--SCATTERING)

KOROLEV, N. V. and LEVIN, S. V.

"The Use of Micro-Objectives as Dark-Field Condensers." pp. 39

State Optical Institute imeni S. I. Vavilov, Laboratory of Cell
Physiology of the Institute of Cytology of the Academy of Sciences USSR

II Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR. Tezisy Dokladov
(Second Scientific Conference of the Institute of Cytology of the Academy
of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,634

LEVIN, S.V.

Dependence of the intensity of light scattering in nerve cells on the concentration of certain alterants and the duration of their action.
TSitologiya 4 no.1:63-67 Ja-F '62. (MIRA 15:4)

1. Laboratoriya fiziologii kletki Instituta tsitologii AN SSSR,
Leningrad.

(NERVES) (LIGHT--SCATTERING)

LEVIN, S.V.

Diffusion of light in nerve and muscle cells in localized and
spreading excitation. Nerv. sist. no.4:50-54 '63 (MIRA 18:1)

1. Institut tsitologii AN SSSR, Leningrad.

KOROLEV, H.V.; LEVIN, S.V.

Microscopic study of living biological objects by means of
dark-field illumination. Tsitologiya 5 no.5:582-591 E-0 1963.
(MIRA 17:4)
L. Gosudarstvennyy opticheskiy institut i Laboratoriya fiziologii
kлетki Instituta tsitologii' AN SSSR, Leningrad.

YEGOROV, O.V., khirurg; LAVROV, N.P., khirurg; KUDEL'YA, M.I.; KUVAYEVA, A.G.; LEVIN, S.V.; ORLOVSKIY, V.F.; KUCHERENKO, G.S.; RUDENKO, G.D., kand. med.nauk; SINADSKIY, N.Ye., kand.med.nauk; SHVARTSBERG, I.L., kand. med.nauk; MISNIK, I.L.; BAZILEVSKAYA, Z.V., prof.; ERNST, V.P.

Discussions. Vop. travm. i ortop. no.13:127-148 '63.

(MIRA 18:2)

1. Glavnyy travmatolog Primorskogo kraya (for Kudelya).
2. Zaveduyushchiy punktom zdravookhraneniya Makarovskogo bumazhnogo kombinata (for Kuvayeva).
3. Glavnyy vrach Korsakovskoy bol'nitsy (for Levin).
4. Zaveduyushchiy travmatologicheskim otdeleniyem bol'nitsy Vladivostoka (for Orlovskiy).
5. Zaveduyushchiy travmatologicheskim otdeleniyem bol'nitsy, Ussuriysk (for Kucherenko).
6. Leningradskiy nauchno-issledovatel'skiy institut travmatologii i ortopedii (for Rudenko).
7. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut travmatologii i ortopedii (for Sinadskiy).
8. Glavnyy khirurg Sakhalir' koy oblasti (for Misnik).
9. Zaveduyushchiy Sakhalinskim otdelom zdravookhraneniya Ministerstva zdravookhraneniya RSFSR (for Ernst).

LEVIN, S.V.

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 8,
p 218 (USSR) 15-57-8-11592

AUTHOR: Levin, S. V.

TITLE: Classification of Fine-Particle Soils as Unconsolidated Rock (O vydelenii pylevatykh gruntov v osoby klass rykhlykh gornykh porod)

PERIODICAL: Izv. AN KazSSR, ser. geol. 1956, Nr 23, pp 84-92

ABSTRACT: The author proposes classification of fine-particle soils as an unconsolidated rock. He discusses the importance of grain-size classification of unconsolidated rock and analyzes the problems involved in such classification, as well as problems of the divisions between the classes. He recommends that various fractions be separated according to a number of properties and that the capacity of the grain-size elements to form different structural types be considered as

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Classification of Fine-Particle Soils (Cont.)

basic. The following structures are differentiated in unconsolidated rock, according to the interaction of the argillaceous particles with one another and with larger particles: 1) structures of sandy rocks; a) unconsolidated granular, friable; b) unconsolidated granular, dense; 2) structures of silty rock; a) unconsolidated aggregates; b) cellular aggregates; 3) structures of argillaceous rock; a) cellular; b) cellular-flocculent. These structures are qualitatively different and may be produced during the formation of unconsolidated sedimentary rocks. The divisions between the classes may be established according to the ability of the particles to coagulate and according to the character of the aggregates formed. Structures of type 1 form where the size of particle is up to 0.005 mm, while particles from 0.005 to 0.05 mm in size form structures of type 2. Particles 0.05 mm in size are adopted by the author as the division between silt and sand particles, since particles of this size are not able to hold an aqueous colloidal film on their surfaces. The author recommends classifying fine-grained unconsolidated rocks in three classes according to grain size, and establishing--aside Card 2/3

15-57-2-11592

Classification of Fine-Particle Soils (Cont.)

from the sandy and argillaceous rocks--an independent class of silty rocks. General classification of unconsolidated rock according to grain size would contain four basic classes: 1) coarse clastic; 2) sandy; 3) silty; and 4) argillaceous. Silty rock is subdivided as follows: a) silty sand with less than 3 percent of particles < 0.005 mm; b) silty arenaceous loam with 3 to 14 percent of particles < 0.005 mm; c) silty argillaceous soil with 14 to 30 percent of particles < 0.005 mm; and d) silty clay with 30 to 60 percent of particles < 0.005 mm. The content of particles from 0.05 mm to 0.005 mm exceeds 35 percent for all classes. The author discusses relation of loess, mudstone and mud to the newly established class of silty rock.

S. S. Polyakov

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OGARKOV, I.P.; LEVIN, S.V., dotsent

Sagging of loess in the outskirts of Alma-Ata. Sbor. nauch. trud.
Kaz GMI no.19:10-13 '60. (MIRA 15:3)
(Alma-Ata Province--Loess)

DZHAYSANBEKOVA, A.; LEVIN, S.V.

Using a model of a hydraulic integrator for studying the fluctuations
in the level of underground waters in a riparian zone. Sbor. nauch.
trud. Kaz GMI no.19:156-158 '60. (MIRA 15:3)
(Water, Underground)

LEVIN, Sergey Vasil'yevich; RODIONOV, N.V., nauchn.red.

[Soil mechanics] Mekhanika gruntov. Moskva, Nedra,
1964. 162 p. (MIRA 17:12)

ALEKSANDROV, V.Ya., prof.; BRODSKIY, V.Ya.; BRONSHTEYN, A.A.;
BRUMBERG, Ye.M.; VAKHTIN, Yu.B.; VINNIKOV, Ya.A.;
GAYTSKHOKI, V.S.; GOROSHCHENKO, Yu.L.; GULYAYEV, V.A.;
ZHINKIN, L.N.; ZAVARZIN, A.A.; ZALKIND, S.Ya.; ZBARSKIY,
I.B.; KATSNEL'SON, Z.S.; KOMISSARCHIK, Ya.Yu.; LEVIN, S.V.;
MARAKHOVA, I.I.; MASHANSKIY, V.F.; MOSEVICH, T.N.; NIKOL'SKIY,
N.N.; PESHKOV, M.A.; POLENOV, A.A.; POLYANSKIY, Yu.I.;
ROZENTAL', D.L.; RUMYANTSEV, P.P.; TITOVA, L.K.; FEDIN, L.A.;
KHEYSIN, Ye.M.; CHERNOGRYADSKAYA, N.A.; TROSHIN, A.S., otv.
red.; MEYSEL', M.N., red.; MIKHAYLOV, V.P., red.; NEYFAKH,
S.A., red.; PARIBOK, V.P., red.; POLYANSKIY, Yu.I., red.;
RAYKOV, I.B., red.

[Manual on cytology in two volumes] Rukovodstvo po tsitologii v
dvukh tomakh. Moskva, Nauka. Vol.1. 1965. 571 p.

(MIRA 18:2)

1. Akademiya nauk SSSR, Institut tsitologii.

LEVIN, S. YA.

Levin, S. Ya. and Dmitriyev, S.A. "Hollow-girder flooring with previously strained armature," *Stroit. prom-st'*, 1948, No. 12, p. 10-12

SO: UL2888, *Letopis Zhurnal'nykh Statey*, No. 1, 1949

LEVIN, S. YA.

35258. Osnovnye voprosy razvitiya massovogo proizvodstva betonnykh i zhelezobetonnykh detaley i konstruktsiy. Trudy IV vsesoyuz. Konf-tsii po beton i zhelezobeton. Konstruktsiyam. Ch. I. M.-L., 1949, S. 161-72

SO: Letopis' Zhurnal'nykh Statey Vol. 34, 1949 Moskva

LEVIN, S. Ya.

USSR/Chemistry - Sulfur Compounds

21 Sep 51

"Transformation of Some Sulfur Compounds of the Aromatic Series (Dithioresorcinol, Thiocresol, Ditolyldisulfide and 2,6-Dimethylthianthrene) Over an Aluminum Catalyst," I. N. Tits-Skvortskov, A. N. Leonov, S. Ya. Levin, Moscow State U imeni Lomonosov

"Dok Ak Nauk SSSR" Vol LXXX, No 3, pp 377-380

Thiophenol reacts with hydrogen in 2 ways to form: (1) Benzene and H_2S ; (2) thianthrene. Dithioresorcinol reacts with hydrogen to form toluene and H_2S . Diphenyldisulfide, when hydrogenated, splits to form thiophenol. 2,6-Ditolyldisulfide splits to form thiocresol. 2,6-Dimethylthianthrene splits to form 2 molecules of parathiocresol.

210T30

SOV/122-59-5-8/32

AUTHORS: Bochkov, S.G., Engineer and Levin, S.Ye., Engineer

TITLE: Increasing the Output and Service Reliability of the Oil Pump for D100 Type Engines (Povysheniye proizvoditel'nosti i ekspluatatsionnoy nadezhnosti maslyanogo nasosa dvigateley tipa D100)

PERIODICAL: Vestnik mashinostroyeniya, 1959, Nr 5, pp 32-33 (USSR)

ABSTRACT: The earlier type of gear pump for the 2000 hp D100 engine is illustrated (Fig 1) and described. It features double helical gears, has a delivery of 72 m³/hr at 1510 rpm against a pressure of 4.3 kg/cm² and works against a suction head of up to 250 mm mercury column. Design modifications are listed by which the delivery was raised to 95 m³/hr against a pressure of 5.5 kg/cm² and the previously experienced failure of the self-aligning ball bearing was eliminated. The gear size was increased. Roller bearings with a higher rating were substituted. The end plates were made of anti-friction cast iron. The reduction valve was improved. The pump body was made of cast iron instead of bronze. The peripheral speed of the gears

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Increasing the Output and Service Reliability of the Oil Pump
for D100 Type Engines

was increased. The axial clearances between the
gears and the housings were increased. These
modifications have proved satisfactory in service.
There are 3 figures.

Card 2/2

S/204/62/002/004/012/019
E075/E435

AUTHORS: Levin, S.Z., Diner, I.S., Gurevich, G.S.

TITLE: Catalytic hydrogenation of dimethylester of
terephthalic acid

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 566-572

TEXT: In view of scarcity of data on the industrial preparation of hexahydrophthalic acid, hexahydroisophthalic acid and hexahydro-p-xylyleneglycol, an investigation was carried out of the hydrogenation of phthalic acids. The catalysts examined were: Zn-Cr, Cu-Cr-Ni, Ni-Cr and Ni on Kieselguhr. The experiments were conducted in a steel autoclave with a powdered catalyst suspended in the molten reactant. Ni-Cr and Ni on Kieselguhr catalysts gave an 85 to 89% yield of hexahydrodimethylterephthalate under a wide range of pressures and temperatures. For the Ni on Kieselguhr catalyst, pressures from 150 to 300 atm and temperatures from 180 to 300°C can be used. The best conditions are: pressure 150 atm, temperature 240°C, giving yields of the product of up to 90%. The product constitutes a mixture of stereoisomers of hexahydrodimethylterephthalate. The main
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Catalytic hydrogenation ...

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E075/E435

hydrogenation reaction leads to the formation of cis - isomer and the presence of trans - isomer is due to a secondary isomerization reaction. The ratio between the two isomers depended strongly on the reaction temperature and pressure, the highest yield of the trans - isomer obtained being 60 to 70%. Hexahydro-p-cylene-glycol was prepared by using Cu-Cr catalyst reduced with H₂. The apparatus and conditions used were similar to those given above (temperature - 300°C, pressure - 300 atm). To obtain the highest yields of the product (94 to 95%) the catalyst concentration must be between 8.0 and 10.0% wt. of the feedstock. An unsuccessful attempt was made to produce individual isomers of the glycol by hydrogenation of the pure isomers of hexahydrodimethylterephthalate. There are 1 figure and 6 tables. ✓

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut
neftekhimicheskikh protsessov (All-Union Scientific
Research Institute of Petrochemical Processes)

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Hydrogenation of C_{10} aldehydes into alcohols

... 20 olefinic hydrocarbons, and produced ...
... of aldehydes, was hydrogenated ...
... pressure. With NiS ...
... catalyst, the selectivity and ...
... with the H₂ charge ratio ...
... version of aldehydes to the corresponding ...
... under these conditions 4.5% of aldehydes ...
... converted to the hydrocarbons. With an ...
... vol. rate up to 2, the conversion of aldehydes decreased to
41.1%. An increase in temp. to 200° and to 230° resulted
in higher conversion of aldehydes, 62.0 and 60.2% resp.,
accompanied by still greater conversion to hydrocarbons.
With $2NiS \cdot WS_2$ as the catalyst at 160-80° (H₂/charge =
1000), vol. rate 2, and 300 atm. pressure, 9.2% of the al-
dehydes were converted to the corresponding alcohols and 1.4
to 4% of the olefinic components of the react. were converted
to hydrocarbons. Similarly high yields were obtained with
Al-cobalt-Mo catalyst at 150° and the vol. rate ...
This catalyst, in contrast to the other 2, could be regenerated
partly in the reactor.

VVEDENSKIY, A.A., otv.red.; MOLDAVSKIY, B.L., nauchnyy red.; BARKOVSKIY, I.V., vedushchiy red.; ALEKSEYEVA, K.A., red.; GADASKINA, N.D., red.; DEMENT'YEVA, M.I., red.; KAGANOVA, E.M., red.; KOBELEV, V.A., red.; ~~LEVIN, S.Z.~~ red.; POKORSKIY, V.N., red.; TEODOROVICH, V.P., red.; SHMULYAKOVSKIY, Ya.E., red.; GENNAD'YEVA, I.M., tekhn.red.

[Collection of reports of scientific research carried out between 1950 and 1957] Sbornik referatov nauchno-issledovatel'skikh rabot, vypolnennykh v 1950-1957 gg. Leningrad, Gos.nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, leningr.otd-nie, 1958. 158 p. (MIRA 12:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i polucheniiyu iskusstvennogo zhidkogo topliva.
(Petroleum research)

SOV/65-58-5-9 '14

AUTHORS: Levin, S. Z; Karpov, A. Z; Diner, I. S. and Gribora, I.G.

TITLE: Hydrogenation of C₆-C₈ Aldehydes to Alcohols.
(Gidrirovaniye al'degidov C₆-C₈ spirty).

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, Nr.5. 1958.
pp. 51 - 56. (USSR).

ABSTRACT: It has now been shown that if the process of hydrogenation of C₆-C₈ aldehydes is used at a pressure of 300 atms on a 2 NiS.WS₂ catalyst hydrogenation takes place at temperatures 40 - 50°C lower than when an aluminium - cobalt - molybdenum catalyst is used. Conditions for carrying out this process on an industrial scale were investigated. The raw material used was the carbonilation product of the fraction between 27°- 100°C, separated from the distillate of contact coking of goudron from Romashkino petroleum containing 27 - 41% aldehydes and 7 - 9% alcohols; 2 NiS WS₂ was used as catalyst. The experiments were carried out on continuous and circulation plants under high pressure. The content of aldehydes, alcohols, and other oxygen-containing compounds (esters and acids) was determined in the raw materials as well as in the reaction products. The depth of conversion of the aldehydes and the yield of alcohols were taken into account

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Hydrogenation of C₆-C₈ Aldehydes to Alcohols. SOV/65-58-5-9/14

when evaluating the suitability of the process. A number of experiments were carried out at 180°C to investigate the influence of the pressure on the selectivity of the process. Results are given in Table 1. Fig.1 shows that the increase of a pressure to 200 - 300 atms does not alter appreciably the depth of conversion of the aldehydes, but that the selectivity of the process is slightly reduced, and that the yield of alcohols is reduced from 95.8% to 94.6%. Various experiments were also carried out to investigate the influence of the temperature on the process (at 160°C-220°C and at a pressure of 150 - 300 atms). From results in Table 2 it appears that the process is selective at a temperature of 160°C. The depth of hydrogenation of aldehydes, at a pressure of 150 atms = 54.5% and at a pressure of 300 atms = 65.2%. A 93%- 95% conversion of the aldehydes was achieved at 180° - 200°C and the yield of alcohols = 100%. 48.9% of oxygen-containing compounds were contained in the hydrogenate as against 56.9% in the carbonylated raw material. (Fig.2). Fig.3 shows the influence of temperature at a pressure of 300 atms. The influence of the volumar

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Hydrogenation of C_6-C_8 Aldehydes to Alcohols. SOV/65-58-5-9 '14

rate of supply of the raw material was tested (Tables 3 and 4 and Fig. 4). The authors also investigated the optimum conditions for carrying out the process on an industrial scale at 150 and 300 atms; it was shown that when using either catalyst the selective hydrogenation of aldehydes can be achieved at volume rates of 1.0 - 4.0. The catalyst $2 NiS.WS_2$ was proved to possess high stability. The activity of the catalyst after 5,000 hours was not impaired. The liquid reaction products were identified. The hydrogenate was separated by distillation into the following fractions with a boiling point of $100^\circ-140^\circ C$, $140^\circ-200^\circ C$, and a residue boiling above $200^\circ C$. The first fraction (33.9%) contained C_5-C_7 hydrocarbons and 0.8% of aldehyde admixtures. The fraction boiling between $100^\circ-140^\circ C$ (7.5%) contained about 10% aldehydes. The residue boiling above $200^\circ C$ (17.2%) contained esters, higher alcohols and polymers. There are 5 Figures, 4 Tables and 1 Soviet reference (page 51).

Card 3/3

ASSOCIATION: LenNII

5(3)

SCV, 80-32-3-41/43

AUTHORS: Zaytseva, A.F., Karpov, A.Z., Levin, S.Z., Antonovskiy, S.D.

TITLE: Dulcitol Obtained From Larch Arabogalactane (Dul'tait iz arabo-galaktana listvenitsy)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 690-693 (USSR)

ABSTRACT: In larch wood there are 10-12% of water-soluble polysaccharide of arabogalactane. On hydrolysis of this polysaccharide 6 parts of galactose and 1 part of arabinose are obtained. Hydrogenation produces multi-atomic alcohols, mostly dulcitol. Gum extracted from larch wood contained 94.5% arabogalactane and 1.5% ashes. An increase of the pressure from 30 atm to 150 atm raises the dulcitol yield of the hydrogenation from 76 to 97.6%. Hydrogenation with a Ni-catalyst on silica gel, a temperature of 120°C, a pressure of 150 atm and a sugar concentration of 15% in the raw material had a yield of 98-97% in the first 36 hours.

Card 1/2

Dulcitol Obtained From Larch Arabogalactane

SCV/80-32-3-41/43

There are 2 tables, and 4 references, 2 of which are Soviet,
1 English and 1 German.

ASSOCIATIONS: Institut lesa AN SSSR (Institute of Wood of the AS USSR).
Leningradskiy nauchno-issledovatel'skiy institut po perera-
botke nefi i polucheniya zhidkogo sinteticheskogo topliva
(Leningrad Scientific Research Institute for the Processing
of Oil and the Production of Liquid Synthetic Fuel). Lesotekh-
nicheskaya akademiya imeni S.M. Kirova (Wood-Technical Academy
imeni S.M. Kirov)

SUBMITTED: July 12, 1958

Card 2/2

5.3200

5.3400

S/153/60/003/02/29/034
B011/B006

AUTHORS: Levin, S. Z., Karpov, A. Z.

TITLE: Selective Hydrogenation¹ of Aldehydes to Alcohols

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i
khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2, pp. 364-368

TEXT: The authors investigated the hydrogenation of mixtures of C₆-C₈ and C₁₂-C₁₇ aldehydes as well as of butyraldehyde over a 2NiS·WS₂ catalyst.

They used a high-pressure circulation apparatus. The hydrogenation process was evaluated by means of the following characteristics: a) intensity of hydrogenation of the aldehydes and b) alcohol yields calculated for reacted aldehydes and alcohols introduced together with the carbonyl compounds (conditioned potential). Table 1 gives the experimental data on the influence of pressure as found for mixtures of C₆-C₈ aldehydes at 180°

and at a volume rate of flow of the aldehydes of 1.0 per volume of catalyst and hour. It follows from these data that the process proceeds

Card 1/3

Selective Hydrogenation of Aldehydes to Alcohols ⁷⁵¹ S/153/60/003/02/29/034
B011/B006

with a sufficient intensity between 150 atm and 300 atm. Table 2 shows the influence of temperature on the hydrogenation of the same mixture (volume rate of flow 1.0) and of butyraldehyde (volume rate of flow 2.0). It was proved that the hydrogenation is strictly selective and that the reaction rate is sufficiently high. A further temperature rise has an unfavorable effect on the selectivity of the process. The dependence of the hydrogenation intensity and the selectivity of the reaction on the volume rate of flow was investigated at pressures of 150 atm and 300 atm. The experimental data are listed in Table 3. From these data it is seen, that selective hydrogenation of C₆-C₈ aldehydes and butyraldehyde at these pressures proceeds at 200° and a volume rate of flow of 2.0, while at 220°, a volume rate of flow of 4.0 per 1 volume of catalyst and hour is satisfactory. The hydrogenation of C₁₂-C₁₇ aldehydes was tested at 300 atm and various volume rates of flow. The influences of the temperature and volume rate of flow on this reaction are shown in Table 4. The authors proved that at 300 atm, 220°, and a volume rate of flow of 2 volumes per 1 volume of catalyst, optimum alcohol yields (100.0%) are

Card 2/3

Selective Hydrogenation of Aldehydes to
Alcohols

10001
S/153/60/003/02/29/034
B011/B006

obtained in 1 h. In this reaction, 97.6% of the aldehydes are hydro-
genated. At 230°C and 240°C, the aldehydes react quantitatively, but the
alcohol yields decrease to 94.7% and 87.1% respectively. The authors
mention M. M. Ketslakh and D. M. Rudkovskiy. This paper was read at the
Vsesoyuznaya Konferentsiya "Puti sinteza iskhodnykh produktov dlya
polucheniya vysokopolimerov" (All-Union Conference "Ways of Synthesizing
Initial Materials for the Preparation of High Polymer Substances") held
at Yaroslavl' from September 29 to October 2, 1959. There are 4 tables
and 8 references, 4 of which are Soviet. X

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut nefte-
khimicheskikh protsessov (All-Union Scientific Research
Institute of Petroleum-chemical Processes)

Card 3/3

LEVIN, S.Z.; DINER, I.S.; primarni uchastnye.; DEMBO, A.I., mladshiy nauchnyy sotrudnik; KUCHINSKI, V.M., mladshiy nauchnyy sotrudnik; KUCHINSKAYA, Z.Ye., mladshiy nauchnyy sotrudnik; KEZHEBOVSKAYA, Z.Ye., mladshiy nauchnyy sotrudnik; BAULIN, V.A., inzh.; KARTYSHOVA, V.M., inzh.; DERGACHEVA, R.D., inzh.; DRABKINA, I.Ye., inzh.

Production of motor fuels and chemical products from Baltic shale tars by the destructive hydrogenation method. Trudy VNIIT no.9:65-90 '60. (MIRA 13:11)

(Motor fuels) (Oils shales)

S/081/61/000/022/034/076
B110/B101

AUTHOR: Levin, S. Z.

TITLE: A volatile inhibitor of atmospheric corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 261, abstract
22I203 (Sb. "Zashchita izdeliy ot vozdeystviya tropich.
klimata". L., 1959, 108 - 111)

TEXT: It was found that nitrite of dicyclohexylamine (NDA), a volatile
inhibitor of atmospheric corrosion, could be applied most practically.
Conditions of application and physicochemical properties of NDA are
described. [Abstracter's note: Complete translation.]

✓

Card 1/1

MUSHENKO, Dmitriy Vasil'yevich; LEVINA, Mariya Ivanovna; LEVIN, S.Z.,
nauchnyy red.; SEGAL', Z.G., ved. red.; SAFRONOVA, I.M.,
tekh. red.

[Petroleum refining without mazut] Bezmazutnaia pererabotka
nefti. Leningrad, Gos.nauchno-tekh.izd-vo neft. i gorno-
toplivnoi lit-ry, 1961. 116 p. (MIRA 15:2)
(Petroleum—Refining) (Mazut)

LEVIN, S. Z.; DINER, I. S.; GUREVICH, G. S.

Catalytic hydrogenation of terephthalic acid dimethyl ester.
Neftekhimia 2 no.4:566-572 J1-Ag '62. (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

(Terephthalic acid) (Hydrogenation)

LEVIN, S. Z.; SHAPIRO, A. L.; LYUBOVSKIY, I. S.

Synthesis of alkylene carbonates. Neftekhimia 2 no.4:573-576
Jl-Ag '62. (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimi-
cheskikh protsessov.

(Carbonic acid) (Esters)

LEVIN, S.Z.; DINER, I.S.; KUCHINSKIY, V.N.; Prinimali uchastiye:
MOLDAVSKIY, B.L.; KUCHINSKAYA, Z.Ye.; BAULIN, V.A.;
ZISEL'SON, Kh.L.; TUKAY, O.P.

Synthesis of dicyclohexylamine nitrite, an inhibitor of
the atmospheric corrosion of metals. Khim.prom. no.9:566-570
Ag '62. (MIRA 15:9)
(Cyclohexylamine) (Metals—Corrosion)

SKOROKHODOV, S.S.; LEVIN, S.Z.; SHAPIRO, A.L.

Vinylene carbonate and its polymers. Khim. volok. no.4:1-5
'63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut nefte-
khimicheskikh protsessov.

GUREVICH, G.S.; IEVIN, S.Z.; DINER, I.S.

Stereochemistry of cyclohexanedicarboxylic acids. Part 1:
Cis-trans-isomerization of dimethyl ester of cyclohexane-1,4-dicarboxylic
acid. Zhur.ob.khim. 33 no.6:1916-1919 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut
neftekhimicheskikh protsessov.
(Cyclohexanedicarboxylic acid) (Stereochemistry)

VINOGRADOV, Panteleymon Aleksandrovich; LEVIN, S.Z., red.

[Protective coatings with additions of molybdenum disulfide and the NDA inhibitor] Zashchitnye smazki s prisadkami dvusernistogo molibdena i ingibitora NDA. Lenin-grad, 1964. 18 p. (MIRA 17:7)

SARZHEVSKAYA, V.P.; KORNEV, K.A.; SMIRNOVA-ZAMKOVA, S.Ye.; LEVIN, S.Z.;
KUCHINSKIY, V.N.; GRIZ, V.Ye.

Polyamides with aromatic and heterocyclic links in the chain.
Part 5: Polyamides based on bis-(4-aminocyclohexyl) methane
and some heterocyclic dicarboxylic acids. Ukr. khim. zhur. 30
no.1:83-86 '64. (MIRA 17:6)

1. Institut khimii polimerov i monomerov AN UkrSSR i Vsesoyuznyy
institut neftekhimicheskikh protsessov.

GUREVICH, G.S.; LEVIN, S.Z.; DINER, I.S.

Stereochemistry of cyclohexanedicarboxylic acids. Part 2: Stereochemistry of the catalytic hydrogenation of dimethyl ether of cyclohexane-1,4-dimethanol. Zhur.ob.khim. 34 no.2:696-699 F '64.
(MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

GUREVICH, G.S.; LEVIN, S.Z.; DINER, I.S.

Production of hydroaromatic dicarboxylic acids. Zhur.prikl.
khim. 37 no. 5:1139-1141 My '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhi-
micheskikh protsessov.

LEVIN, S.Z.; KAPPOV, A.Z.; SEDOVA, I.G.; BATEHINA, A.D.; GUREVICH, G.S.

Hydrogenation of butyraldehydes on industrial nickel-chromium
catalysts. Zhur. prikl. khim. 37 no.6:1391-1394 Je '64.
(MIRA 18:3)

LEVIN, S.Z.; SEDOVA, I.G.; KARPOV, A.Z.; BATENINA, A.D.; GUREVICH, G.S.

Hydrogenation of C₆ - C₈ aliphatic aldehydes on a zinc-containing catalyst. Zhur.prikl.khim. 37 no.7:1631-1633 J1 '64. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

LEVIN, S.Z.; GUREVICH, G.G.; SELINA, I.I.; BATHNINA, A.P.

Hydrogenation of butyraldehydes on a mixed zinc oxide catalyst.
Zhur. prikl. khim. 37 no.8:1842-1843 Ag '64.

(MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh protsessov.

LEVIN, S.Z.; SHAPIRO, A.I.

Synthesis and use of propylene carbonate. Dokl. Akad. Nauk SSSR 41 no.4:24-26
Ap '65. (MIRA 18:8)

L 7877-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACC NR: AP5025032

SOURCE CODE: UR/0286/65/000/016/0083/0083

AUTHORS: Namirovskiy, V. D.; Skorokhodov, S. S.; Shapiro, A. L.; Levin, S. Z.

ORG: none

TITLE: Method for obtaining poly- β -oxy-vinyl-N-alkylcarbamates. Class 39,
No. 173944 /announced by Institute for High Molecular Compounds, AN SSSR (Institut
vysokomolekulyarnykh soyedineniy AN SSSR)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 83

TOPIC TAGS: polymer, polymerization, alkylcarbamate, polyvinylcarbonate

ABSTRACT: This Author Certificate presents a method for obtaining poly- β -oxy-
vinyl-N-alkylcarbamates by the interaction of polyvinylcarbonate with amines. To
simplify the process and to synthesize polymers having valuable properties, the
reaction is carried out in a homogeneous medium with dimethylformamide as solvent.

SUB CODE: 07

SUBM DATE: 16Oct63

nw

Card 1/1

UDC: 678.744.42

LEVIN, S.Z.; GUREVICH, G.S.; SEDOVA, I.G.; BATENINA, A.D.

Hydrogenation of propionaldehyde to propyl alcohol under medium pressure. Zhur.prikl.khim. 38 no.6:1414-1417 Je '65.

(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

LEVIN, T. A.

123

The microelectrochemical method of investigation of structural corrosion. T. A. Levin and S. A. Gintsberg. *Akad. Nauk S.S.S.R., Trudy Tkh. Fiz. Khim.* No. 1, *Novye Metody Fiz. Khim. Issledovan: Poverkhnost. Yavleni* 93-4(1980).—Polarization diagrams were obtained on the grain boundaries at isolated and nonisolated grains of a steel with 27% Cr and 0.08% C, in samples 15 X 15 X 3 mm. The actual surface observed and measured under the microscope was 15-20 sq. mm. The samples were

heated to 100° for 1 hr. These micromasurements gave quite reliable values, if one took care not to introduce an error by coating the samples with glyptal lacquer (II), as was done formerly. The presence of I caused a slight shift of the polarization curves. Werner Jacobson

①

Intermetallic corrosion of high-nickel alloys

Intermetallic corrosion of high-nickel alloys was studied in a solution of 10% NaCl. The corrosion rate was determined by measuring the weight loss of the alloy after immersion in the solution for a given period of time. The results showed that the corrosion rate increased with increasing temperature and decreasing concentration of the alloy.

Experiments were conducted at temperatures of 25, 50, and 75°C. The corrosion rate was found to be highest at 75°C and lowest at 25°C. The corrosion rate also decreased as the concentration of the alloy increased from 10% to 20%.

The corrosion products were identified by X-ray diffraction analysis. The results showed that the corrosion products were composed of nickel and nickel oxide. The corrosion products were found to be more extensive at higher temperatures and lower concentrations of the alloy.

LEVIN, TS. A.

"A New Method in Stimulating the Action of the Vessels of the Retina and of the
During Hypertonia," Vest. Oftalmol., 28, No. 2, 1989. Doctor of Med. Sci., Prof.

1. LEVIN, T. F.
2. USSR (600)
4. Turkeys
7. N. F. Zanizura's experience in raising bronze turkeys. Ptitsevodstvo no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

Name : LEVIN, V.

Title : Engineer

Remarks: Levin is one of the authors of the articles appearing in "Flight to the Moon", Moskva, 1955, portraying a fictitious flight to the moon.

Source : M: Polet na Lunu (Flight to the Moon), by various authors, Moskva, 1955

LEVIN, V.

Transformer-oil rectifier. Zhil.-kom.khoz. 9 no.11:23-24
'59. (MIRA 13:2)

1. Nachal'nik elektromekhanicheskoy masterskoy Ukhtonskogo
otdeleniya Mosoblelektro, poselok Tomilino Moskovskaya oblast'.
(Lubrication and lubricants)

ACC NR: AP6036152

(4)

SOURCE CODE: UR/0018/66/000/011/0085/0090

AUTHOR: Levin, V. (Colonel)

ORG: None

TITLE: Crossing on ice

SOURCE: Voyennyy vestnik, no. 11, 1966, 85-90

TOPIC TAGS: military action, military bridge, military engineering, military installation, military operation, military personnel, military training, practical meteorology, ice, armed forces logistics

ABSTRACT: Requirements for constructing ice crossings, and ways in which to determine the limits of their capabilities for use in transporting military cargo, are discussed. Examples of the use of ice crossings in past wars are cited, including a description of the several routes used to supply Stalingrad, and the capacities of each. The method used to calculate the carrying capacity of crossings is explained. Differences in the type of cargo, or load, to be carried, whether vehicles are wheeled, tracked, or on runners, and distances between loads, are all given due consideration. Ice thickness required for various weights and types of cargo is provided. The influence of intensity and speed of vehicle movement, and the thickness of snow layers on the ice, is considered. Procedures for reinforcing ice

Card 1/2

ACC NR: AP6036152

crossings in order to increase the cargo capacity of the routes established are discussed. Command and unit responsibilities for establishment and maintenance of ice crossings are listed. Orig. art. has: 4 figures.

SUB CODE: 15/SUBM DATE: None

Card 2/2

BERNSHTEYN, Lev Borisovich; TERMAN, Il'ya Arkad'yevich, red.; LEVIN,
Vasiliy Andreyevich, red.; MAR'YANSKIY, L.P., red. izd-va;
BORUNOV, N.I., tekhn. red.

[Tidal electric power plants in modern power engineering] Pri-
livnye elektrostantsii v sovremennoi energetike. Moskva, Gos.
energ.izd-vo, 1961. 270 p. (Materialy po proektirovaniu gidro-
energeticheskikh uzlov. Seriya 4. Gidroelektrostantsii. Kon-
struktsii i materialy) (MIRA 15:2)
(Tidal power) (Hydroelectric power stations)

KAPLANOV, Murad Rashidovich; LEVIN, Viktor Aronovich: Prinirali uchastiye:
KAGANOV, V.I.; NEMIROVSKIY, M.S.; MOZH'HEVELOV, B.N., red.;
LARIONOV, G.Ye.G., tekhn. red.

[Automatic frequency control] Avtomaticheskaya podstroika cha-
stoty. Izd. 3., dop. Moskva, Gosenergoizdat, 1962. 319 p.
(MIRA 15:9)

(Frequency regulation)

(Radio)

L-F 1177 VA

AUTHOR: Not Given. PA - 2021
TITLE: New Books.
PERIODICAL: Radiotekhnika, 1957, Vol 12, Nr 1, p 81 (U.S.S.R.)
Received: 2 / 1957 Reviewed: 3 / 1957

ABSTRACT: M.I.VITENBERG: Computation of electromagnetic relays for apparatus of automation and communication. Gosenergoizdat, M.L.1956, 464 pages, price 14.50 roubles.
Theory and computation of the electromagnetic relays of parallel- and alternating current for apparatus of automation and communication. Analytical and graphoanalytical methods of computations, constructions, test data. The book is destined to be used by engineers and technical engineers.

M.P.KAPLANOV, V.A.LEVIN: The automatic foundation of frequency, 2.enlarged edition. Gosenergoizdat, M.L. 1956, 200 pages, price 11.50 roubles.
Description and classification. Computation formulae for construction. The book is for radio specialists and advanced university students.

The Successes attained by Electrovacuum Engineering, edited by Prof. G.A.TJACUNOV, L.M.Gosenergoizdat, 1956, 256 pages, price 10.25 roubles.
A collection of articles on the types, computation methods, properties, and physical phenomena of some new types of electrovacuum de-

Card 1/2

New Books.

PA - 2021

vices. For students, university professors, and engineers.

F.V.MAJOROV: Electron Regulators. M. Gosenergoizdat, 1956, 492 pages, price 14.20 roubles.

Elements and assemblies of electron regulators with uninterrupted and discrete effect as well as practical schemes.

P.V.SAHAROV: Technology of apparatus construction. Vol 1. Special features of electro-apparatus construction. Technology of current-carrying parts and magnetic conductors. M-L-Gosenergoizdat, 1956, 315 pages, price 7.85 roubles. Construction, technical production.

ASSOCIATION: Not given.

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress.

Card 2/2

L 52214-65 EWT(1)/EPF(n)-2/ENG(m)/EPA(w)-2 Pz-6/Po-L/Pab-10/P1-L IJP(c)

SW/AT

ACCESSION NR: AP5009263

S/0055/65/000/002/0062/0066

AUTHOR: Levin, V. A.

TITLE: Nonlinear oscillations of an electron gas in a magnetic field

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 2, 1965, 62-66

TOPIC TAGS: electron gas, magnetohydrodynamics, plasma oscillation

ABSTRACT: Nonlinear cylindrical oscillations of electrons in cold plasma in the presence of an external magnetic field are studied. The induced magnetic field is ignored. The equations are studied for the various cases arising with different values for ion density, current, and intensity of the magnetic field. The study is extended to the case of motion under homogeneous deformation, and the conditions are stated under which the equations have solutions for this class of motions. The oscillations are illustrated for various values of the pressure gradient. Orig. art. has: 9 formulas, 4 figures.

Card 1/2

L 52214-65

ACCESSION NR: AP5009263

ASSOCIATION: Kafedra gidromekhaniki, MGU (Department of Hydromechanics, MGU)

SUBMITTED: 14Mar64

ENCL: 00

SUB CODE: ME, EM

NO RFF SOV: 005

OTHER: 001

gph
Card 2/2

S/207/62/000/003/004/016
1028/1228

20 1410
AUTHOR: Levin, V. A. (Moscow)

TITLE: One-dimensional non-stationary motions of a gas carrying an electric charge at zero pressure

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1962, 21-26

TEXT: The equations of one-dimensional non-stationary motions of cold plasma are solved exactly in the following particular cases: a) the flying apart of charged particles of the same kind in their own electric field (case of null external force); b) oscillations of an electron plasma with immobile ions. Each case is solved for motions with plane, cylindrical, and spherical waves. The relativistic effects are taken into account in the study of the motion of the charged particles. The author thanks G. G. Chernov and Yu. L. Klimuntovich for their interest in the work. There are 2 figures. The most important English-language references read as follows: G. Kalman, "Non-linear oscillations and Nonstationary Flow in a zero temperature plasma", Annals of Physics, 1960, vol. 10, no. 1, 1-61; John M. Dawson, "Non-linear Electron oscillations in a Cold Plasma", The Physical Review, 1959, vol. 113, no. 2, 383-387

✓B

SUBMITTED: February 16, 1962

Card 1/1

43308

S/055/62/000/006/005/006
D251/D308

24.8.00
AUTHOR:

Levin, V.A.

TITLE:

On some one-dimensional non-stationary motions of a charged gas

PERIODICAL:

Moscow. Universitet. Vestnik. Seriya I. Matematika, mekhanika, no. 6, 1962, 65-69

TEXT:

An exact solution of the above problem (which is equivalent in some respect to the solutions of problems of a gravitating gas), must be found in connection with the oscillations of electrons in a plasma. The equations of motion of a charged gas are taken in Lagrange's form, and solutions describing uniform deformation are sought. Then $r = r_0(\theta)\mu(t)$ and

$$\mu'' + \frac{\omega^2}{v} \mu = -A\mu^{\nu-1-\gamma\nu} + B\mu^{1-\nu}. \quad (1)$$

A single integration of (1) is performed, and the result is analyzed for the cases of plane, cylindrical and spherical symmetry. Cases of positive and negative initial pressure gradient are considered,

Card 1/2

On some one-dimensional ...

S/055/62/000/006/005/006
D251/D308

and also the effect of the sign of the charges on the particles. The dependence of the types of possible motion: oscillations, compression, flight, on the initial conditions is demonstrated. After this paper had been written, a paper by V.S. Tkulich and N.V. Saltanov was published, giving an equation analogous to (1) but no analysis of possible solutions. There are 4 figures. The English-language reference reads: G.G. McVittie, Revs. Mod. Phys. v. 30, no. 3, 1958.

ASSOCIATION: Kafedra gidromekhaniki (Department of Hydromechanics)

SUBMITTED: April 3, 1962

Card 2/2

ACCESSION NR: AP4022646

8/0207/64/000/001/0026/0030

AUTHOR: Levin, V. A. (Moscow)

TITLE: Neutralization of ion beams

SOURCE: Zhurnal priklad. mekhan. i tekhn. fiz., no. 1, 1964, 26-30

TOPIC TAGS: ion, ion beam, neutralization, ion current, electron current, neutralizer, collision, collision frequency

ABSTRACT: The author demonstrates that taking electron friction into account in ion beam neutralization problems automatically leads to equating electron and ion currents. In previous works this fact was either assumed or was held to be untrue. In his computation the author assumes that the parameters of the ion beam are constant. He then finds an expression for movement of electrons within the ion beam. This expression is rewritten with Lagrange variables. It is found that with increasing distance from the neutralizer the parameters of electron flux become more rapidly equal to the parameters of ion flux the greater the value of $\frac{v}{\omega}$ where γ is the effective frequency of collision, $\left(\omega^2 = \frac{4\pi e^2 n_i}{m}\right)$, $\frac{v}{\omega}$.

Cord 1/2

ACCESSION NR: AP4022646

e is the charge of the electron, m is the mass of the electron, and n_1 is ion density. The author shows that the development of current takes place in such a way that the discharge electron current is equal to the ion current even when dissipation is absent. Orig. art. has: 17 formulas.

ASSOCIATION: none

SUBMITTED: 28Nov63

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: GE, PH

NO REF SOV: 002

OTHER: 004

Card 2/2

LEVIN, V.A. (Moskva)

Nonsteady motion of a charged gas with particle production. PMTF
no.2:73-74 Mr-Ap '65. (MIRA 18:7)

KAGANOV, Vil'yam Il'ich; LEVIN, V.A., kand. tekhn. nauk, red.

[radio transmitters with small and medium power output;
their theory and design] Radioperedatchiki maloi i sred-
nei moshchnosti; teoriia i raschet. Moskva, Energiia,
1964. 279 p. (MIRA 17:12)

L 63544-65

EWI(m)/EWP(f)/EPR/EPA(w)-2/T/FSS-2/EWA(-)-2 Pz-6/Pe-4/PT-1

IJP(c) TT/WW

ACCESSION NR: AP5018195

UR/0207/65/000/003/0068/0070

AUTHOR: Levin, V. A. (Moscow)

TITLE: Neutralization of spherically diverging fluxes of charged particles

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1965, 68-70

TOPIC TAGS: ion neutralization, charged particle beam, ion beam, ion propulsion, cesium ion beam

ABSTRACT: Problems of the neutralization of a spherically diverging flux of ions are considered. The ions (assumed singly charged) are emitted from an electrode of radius r^0 at a potential ϕ_0 and pass through an accelerating screen of radius r_0 at zero potential. There is then a neutralizing screen of radius r_* at a potential ϕ_* which is assumed to be an ideal emitter of charged particles of opposite sign. The equations for the potential outside the neutralizing screen are rewritten in terms of the parameters

$$\phi = \frac{\phi - \phi_*}{\phi_0 - \phi_*}, \quad r = r_0 e^{\eta}$$

It is found that the behavior of the solution depends on the value of the

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ACCESSION NR: AP5018195

parameter

$$\lambda^2 = \frac{2A(1 + \alpha^2)^{1/2}}{\alpha^2}$$

where

$$\alpha = \frac{J}{J_1} \frac{V_m}{V_M}, \quad A = \frac{J_1 V_M e}{V^2 (\Phi_0 - \Phi_1)^{1/2}}$$

M and J_1 are the mass and total flux of the ions, m and J are the mass and total flux of the neutralizing particles, and e is the electronic charge. For $\lambda^2 \leq 1$ ϕ increases monotonically from zero to the limiting value $\phi_\infty = \alpha^2 (1 + \alpha^2)^{-1}$. For $\lambda^2 > 1$ ϕ undergoes damped oscillations about the same limiting value with increasing s. Asymptotic formulas for the behavior of the potential are given for large and small values of the parameter s. The particular case of the neutralization of a cesium beam is considered. It is shown that, if the neutralization is by electrons, the potential is of the damped oscillating form. However, if the neutralization is by negative ions beginning with hydrogen ions, the potential is of the monotonically increasing form. Orig. art. has: 35 formulas and 4 figures. [04]

ASSOCIATION: none

SUBMITTED: 19Jan65

ENCL: 00

SUB CODE: NP

NO REF SOV: 004

OTHER: 003

ATD PRESS: 4049

Card 2/2

LEVIN, V.A.

Nonlinear oscillations of an electron gas in a magnetic field.

Vest. Mosk. un. Ser. 1: Mat., mekh. 20 no.2:62-66 Mr-Apr '65.

(MIRA 18:6)

1. Kafedra gidromekhaniki Moskovskogo universiteta.

L 46722-66 EWT(1)/EWP(m) WIV

ACC NR: AP6022532

SOURCE CODE: UR/0040/66/030/003/0613/0616

AUTHOR: Levin, V. A. (Moscow)

ORG: none

41
B

TITLE: Nonstationary motion of a rarefied gas

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 3, 1966, 613-616

TOPIC TAGS: rarefied gasdynamics, expanding gas, gas flow, gas jet, BOLTZMANN EQUATION

ABSTRACT: A general approach to solving the Boltzmann equation for the case of nonstationary motion of a gas in the presence of internal force fields is presented. For a gas concentrated at a point $r_0 = (x_1^0, x_2^0, x_3^0)$ at time $t = \tau$ with a distribution function $f(u^0, \tau)$, the motion is described by the equations

$$\frac{\partial r}{\partial t} = F(r, u, t), \quad \frac{\partial r}{\partial t} = u, \quad n \frac{\partial (x_1, x_2, x_3)}{\partial (u_1^0, u_2^0, u_3^0)} = f(u^0, \tau)$$

Eliminating the initial velocity from the solution, one obtains an expression for the velocity and density everywhere in space as a function of time. This method is illustrated by application to three problems: the efflux of a gas cloud into an opposing medium, the free molecular source in a force field, and the nonstationary flow of a rarefied gas around a flat plate. For the first problem, the equations take the form

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L 45722-66

ACC NR: AP6022532

$$n \frac{\partial(x_1, x_2, x_3)}{\partial(u_1^2, u_2^2, u_3^2)} = n_0 \left(\frac{\beta}{\pi}\right)^{3/2} \exp[-\beta(u_1^2 + u_2^2 + u_3^2)] \quad \left(\beta = \frac{m}{2kT_0}\right) \quad (6)$$

where m is the mass of the particle; k is the Boltzmann constant; T_0 is temperature; ν is the frequency of collision for one particle. The Maxwell distribution is taken as an initial distribution function although it could be any function. Solving (6) and eliminating the initial velocity one obtains

$$u = \frac{\nu(r-r_0)e^{-\nu t}}{1-e^{-\nu t}}, \quad n = n_0 \nu^3 \left(\frac{\beta}{\pi}\right)^{3/2} (1-e^{-\nu t})^{-3} \exp\left[-\frac{\beta \nu^3}{(1-e^{-\nu t})^3} \sum_{i=1}^3 (x_i - x_i^0)^2\right]$$

The remaining problems are treated in a similar way. Orig. art. has: 2 figures, 15 formulas.

SUB CODE: 20/

SUBM DATE: 22Nov65/

ORIG REF: 005/

OTH REF: 006

Card 2/2 LC

L 10714-65 EWT(1)/EWP(m)/EPA(sp)-2/EWG(v)/EPR/EPA(w)-2/T-2/EWA(m)-2 Pd-4/
Pe-5/Pab-10/Pa-4/Pi-4 ESD(t)/AFTC(a)/SSD/ASD(a)-5/ASD(d)/RAEM(c), ASD:p-1,
AFWL/AEDC(a)/ASD(f)-2/IJP(c)
ACCESSION NR: AP4047379 S/0294/64/002/005/0742/0748

AUTHORS: Kovner, D. S.; Levin, V. B.

TITLE: On turbulent flow of an electroconductive liquid in a pipe in a longitudinal magnetic field

SOURCE: Teplofizika vysokikh temperatur, v. 2, no. 5, 1964, 742-748

TOPIC TAGS: conductive fluid, magnetic field, turbulent flow, Reynolds number, fluid velocity vector

ABSTRACT: The turbulent flow of an electroconductive liquid in a round cylindrical pipe was investigated for flat channel conditions and in the presence of a longitudinal magnetic field where $Re_m \ll 1$ (Reynolds magnetic number). The authors derived formulas with which, with the aid of numerical or graphical means, one can determine basic characteristics of turbulent flow, mean velocity profiles, and hydraulic resistance coefficient relative to varied values of Reynolds and Hartman numbers. The heavy influence of the longitudinal magnetic field upon the mean velocity profile was demonstrated and linked with the decrease in turbulent friction. The relationship of the local critical Reynolds number to the local

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L 10714-65

ACCESSION NR: APL047379

Hartman number was found and shown graphically. The profile of universal speed was plotted for various flow cross-section parameters and was related to Reynolds and Hartman numbers. The experimental results obtained were compared with those of earlier work by S. Gloub (Teploperedacha, No. 4, 1961). Orig. art. has: 30 equations and 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EM, ME

NO REF SOV: 002

OTHER: 001

Cord 2/2

KOVALEVSKIY, I.I., kand. tekhn. nauk; prinyali uchastiye: MERINOV, N.A., inzh.; LEVIN, V.B., inzh.; SENINA, R.V., tekhn. nauk; LERNER, B.N., kand. tekhn. nauk; PRAVOVEROV, K.N., kand. tekhn. nauk; SOSNIN, Yu.P., kand. tekhn. nauk, red.; NINEMYAGI, D.K., red. izd-va; OSENKO, L.M., tekhn. red.

[Album of heating furnaces and stoves] Al'bom otopitel'nykh i bytovykh pechei. Moskva, Gos.izd-vo lit-ry po stroit., arkh. i stroit. materialam. Pt.1. [Heating furnaces] Pechi otopitel'nye. 1961. 85 p. (MIRA 14:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut po stroitel'stvu, Rostov-on-Don. 2. Laboratoriya otopitel'nykh pechei i oshagov nauchno-issledovatel'skogo instituta sanitarnoy tekhniki Akademii stroitel'stva i arkhitektury SSSR (for Merinov, Levin, Senina). 3. Laboratoriya otopleniya i ventilyatsii Instituta po stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (Rostov-na-Donu) (for Kovalevskiy). 4. Akademiya kommunal'nogo khozyaystva RSFSR imeni K.D.Pamfilova (for Lerner, Pravoverov)
(Furnaces, Heating)

LEVIN, V.B.

Formation of rotted straw layers in the primary processing of
flax. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.6:154-158 '62.
(MIRA 16:2)

1. Kostromskoy tekhnologicheskii institut.
(Flax processing machinery)

LEVIN, V.B.

Studying the force of cohesion of stalks in a layer of retted
straw. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.2:40-45 '63.
(MIRA 16:6)

1. Kostromskoy tekhnologicheskoy institut.
(Flax)

LEVIN, V.B.

Elements of the theoretical analysis of the process of
the thinning of a layer of retted straw. Izv. vys. ucheb.
zav.; tekhn. tekst. prom. no.1:39-45 '64. (MIRA 17:5)

1. Kostromskoy tekhnologicheskiy institut.

REVIN, V.B.

Experimental analysis of the process of the spinning of a layer
of retted flax. Izv. vyz. ucheb. zav.; tekhn. tekst. prom. no.4:
29-31 1964. (MIRA 17:14)

1. Kostromskoy tekhnologicheskly institut.

LEVIN, V.B.

Elements of the theoretical investigation of the thinning of
a flax tow layer by toothed discs. Izv. vys. ucheb. zav.;
tekh. tekst. prom. no.6:22-27 '64. (MIRA 18:3)

1. Kostromskoy tekhnologicheskiy institut.

LEVIN, V.B. (Moekva)

Calculation of the principal characteristics of turbulent
flows with transverse shifts. Teplofiz. vys. temp. 2 no.4:
588-598 J1-Ag '64. (MIRA 17 9)

L 20999-65 ENP(m)/EWT(1)/FCS(k)/EWA(d)/ENA(1)/ Pd-1 AEDC(a)/SSD/AFWL/ASD(f)-3/
AED(p)-3/AFETR/AFTC(a)/ESD(t)

ACCESSION NR: AP5001153

S/0294/64/002/006/0692/0900

AUTHOR: Levin, V. B. (Moscow)

TITLE: Stabilizing effect of flow rotation on turbulence

SOURCE: Teplofizika vysokikh temperatur, v. 2, no. 6, 1964, 892-900

TOPIC TAGS: turbulent flow, Reynolds stress, Navier Stokes equation, stability criterion, Reynolds number, viscous flow, turbulent boundary layer

ABSTRACT: The stability of turbulent spiral fluid flow in a circular cylindrical tube rotating around its axis is discussed analytically. By an averaging process, the equations for Reynolds stresses are obtained from the cylindrically symmetric Navier-Stokes equations. Turbulent fluctuation diffusion is neglected and a semi-empirical expression is used for the dissipation of fluctuating motion or

$$2v \sum_{i,j=1}^n \frac{\partial u_i}{\partial x_k} \frac{\partial u_j}{\partial x_k} = \delta_{ij} \frac{2c E^h}{a} + c_{iv} \frac{u_i u_j}{R}$$

where

$$E = \sum_{i,j=1}^n \frac{u_i^2}{2}$$

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